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EXAMINER

LY, ANH VU H

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/346,110

Applicant(s)

WANG ET AL.

Examiner

Anh-Vu H Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-31 and 33-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-31 and 33-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. This communication is in response to applicant's amendment filed November 04, 2003. The proposed amendment to the claims has been entered. Claims 12-31 and 33-50 are pending.

***Claim Objections***

2. Claims 27-30, 39, 42, and 44 are objected to because of the following informalities:

With respect to claim 27, in line 2 "said backplane" lacks clear antecedent basis. Claims 28-30 are objected for similar reason.

With respect to claim 39, in line 4 "adepter" is misspelled.

With respect to claim 42, in line 2, a period was not presented at the end of the claim.

With respect to claim 44, in lines 1-2 "wherein a processor card that plugs into said processor card comprises" is unclear.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

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reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 12-15, 21, 27-30, 33-37, 39-46, and 48-50 are rejected under 35 U.S.C. 102(e) as being anticipated by Noh (US Patent No. 6,134,238).

With respect to claims 12-14, 33-37, and 45-46, Noh discloses in Fig. 5A, a hybrid switching system for accommodating both ATM and STM traffic includes STM fabric 30, ATM fabric 85, and a plurality of input/output STM and ATMs. Herein, STM fabric is fabricated in a back plane as considered by the examiner, which is separated from another back plane of ATM fabric. Further, it should be understood that switch card interfaces are needed to hold the STM 30 and ATM 85 and adapter card interfaces needed to hold the STM and ATM adapter cards connecting to the physical lines (the back plane having a plurality of switch card interfaces and a plurality of adapter card interfaces). As shown in Fig. 5A, one of the switch card interfaces must couple the STM 30 to the back plane and another one of the switch card interfaces must couple the ATM 85 to another back plane. Herein, each switch card interface has inputs and outputs (each of said switch card interfaces having an arrangement of inputs and outputs to functionally mates to an ATM switch card and to functionally mates to a SONET switch card). Noh discloses in Fig. 5A, a hybrid switching system for switching data therefore adapter card interfaces connecting to adapter cards must connect to the switch card interfaces for relaying the input data to the switch cards. Even though, the connections are not shown in Fig. 5A, but it is there to relay traffic (each of said adapter card interfaces coupled to each of said switch card interfaces). Further, connections are there to receive the input data from each of the adapter card interfaces and forward to both the STM fabric and ATM fabric (each of said adapter card interfaces having

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an arrangement of inputs and outputs to functionally mates to an ATM adapter card and to functionally mates to a SONEAT adapter card).

With respect to claim 15, Noh discloses in Fig. 5B, an adapter card includes STM circuit and ATM circuit (a hybrid SONET/ATM adapter card mated with one of said adapter card interfaces, each of said adapter card interfaces having an arrangement of inputs and outputs to functionally mate to said hybrid SONET/ATM adapter card).

With respect to claims 21 and 27-30, Noh discloses in Fig. 5A, a hybrid switching system for accommodating both ATM and STM traffic includes STM fabric 30, ATM fabric 85 (forming a first and second back plane according to a manufacturing process), and a plurality of input/output STM and ATMs. Herein, as shown in Fig. 5A, the fabric 85 comprises only the ATM switching module (integrating first back plane into an ATM system that does not comprise any SONET switch cards, wherein SONET switch cards capable of only switching SONET traffic, said first back plane to receive one or more ATM switch cards for use in said ATM system) and fabric 30 comprises only the STM switching module (integrating second back plane into a SONET system that does not comprise any ATM switch cards, said ATM switch cards capable of only switching ATM traffic, said second back plane to receive one or more SONET switch cards for use in said SONET system).

With respect to claims 39-40 and 48-49 Noh discloses in Fig. 5B, a hybrid ATM/SONET system (third of said networking system being a hybrid ATM/SONET system). Other limitations recited in the claim have been addressed in the rejection of independent claim 33.

With respect to claims 41-44 and 50, Noh discloses in Fig. 5A, STM and ATM input/output ports, STM, and ATM fabrics coupled to the STM & ATM management 45 (backplane comprises a processor card interface, said processor card interface coupled to switch card interfaces and adapter card interfaces).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 16-20, 38, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noh (US Patent No. 6,134,238).

With respect to claim 16, Noh discloses in Fig. 5A, a hybrid switching system for accommodating both ATM and STM traffic includes STM fabric 30, ATM fabric 85, and a plurality of input/output STM and ATMs (a first ATM switch card mated with one of the switch card interfaces and an ATM adapter card mated with one of the adapter card interfaces). Noh does not disclose that a redundant ATM switch card mated with another one of the switch card interfaces. However, it is well known in the art that in data communications systems, redundant

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switching card has been widely used in almost every switching system to protect data when a failure occurs. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the feature of having a redundant ATM switch card in a switching system in Noh's system, to protect data when a failure occurs.

With respect to claim 17, Noh discloses in Fig. 5A, a hybrid switching system for switching data therefore adapter card interfaces connecting to adapter cards must connect to the switch card interfaces for relaying the input data to the switch cards. Even though, the connections are not shown in Fig. 5A, but it is there to relay traffic. Noh does not disclose that minor links comprising a real data minor link and a redundant minor link. However, it is well known in the art that in data communications systems, real data links and redundant data links have been widely used in almost every switching system to protect and route data when a failure occurs. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the feature of having a redundant minor link in Noh's system, to protect and route data when a failure occurs.

With respect to claim 18, Noh discloses in Fig. 5A, a hybrid switching system for accommodating both ATM and STM traffic includes STM fabric 30, ATM fabric 85, and a plurality of input/output STM and ATMs (a first SONET switch card mated with one of the switch card interfaces and a SONET adapter card mated with one of the adapter card interfaces). Noh does not disclose that a redundant SONET switch card mated with another one of the switch card interfaces. However, it is well known in the art that in data communications systems,

redundant switching card has been widely used in almost every switching system to protect data when a failure occurs. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the feature of having a redundant SONET switch card in a switching system in Noh's system, to protect data when a failure occurs.

With respect to claims 19, 38, and 47, Noh discloses in Fig. 5A, a hybrid switching system for switching data therefore adapter card interfaces connecting to adapter cards must connect to the switch card interfaces for relaying the input data to the switch cards. Even though, the connections are not shown in Fig. 5A, but it is there to relay traffic. Noh does not disclose a redundant major link between SONET adapter and the redundant SONET switch card. However, it is well known in the art that in data communications systems, redundant switching card and redundant data bus has been widely used in almost every switching system to protect and route data when a failure occurs. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the feature of having a redundant major link between SONET adapter card and the redundant SONET switch card in Noh's system, to protect and route data when a failure occurs.

With respect to claim 20, Noh discloses in Fig. 5A, a hybrid switching system comprising three adapter card interfaces and two switch card interfaces. Noh does not disclose four switch card interfaces and twelve adapter card interfaces. However, it is known in the art that in high-speed switching systems, a plurality of input/output ports and switching fabrics are included to accommodate higher traffic. It would have been obvious to one having ordinary skill in the art at



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the time the invention was made to include the feature of having twelve adapter card interfaces and four switch card interfaces in Noh's system, to deliver more data in a shorter period of time.

5. Claims 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noh (US Patent No. 6,134,238) in view of Tabu et al (US Patent No. 6,560,219). Hereinafter, referred to as Noh and Tabu.

With respect to claims 22-25, Noh discloses in Fig. 5A, a hybrid switching system for accommodating ATM and STM traffic. Noh does not disclose wherein manufacturing process comprises forming minor link conducting traces associated with a major link; wherein, minor link conducting traces comprises forming a pair of differential transmit conducting traces; wherein, minor link conducting traces further comprises forming a pair of differential receive conducting traces; and wherein, manufacturing process further comprises forming system bus conducting traces. Tabu discloses in Fig. 17 that conducting traces both major and minor stemming from the major bus structures of ATM and STM. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features stated above in Noh's system, as suggested by Tuba, to deliver data between input/output interfaces and switching interfaces.

With respect to claim 26, Noh discloses in Fig. 5A, a hybrid switching system for accommodating ATM and STM traffic. Noh does not disclose wherein manufacturing process further comprises forming clock traces. Tabu discloses in Fig. 14, clock traces are formed on the back plane. It would have been obvious to one having ordinary skill in the art at the time the

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invention was made to include clock traces in Noh's system, as suggested by Tuba, to synchronize forwarding elements of the switching system.

6. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Noh (US Patent No. 6,134,238) in view of the admitted prior art disclosed in the specification in pages 1-9.

With respect to claim 31, Noh discloses in Fig. 5A, a hybrid switching system for accommodating ATM and STM traffic. Noh does not disclose wherein the manufacturing process further comprises a lithographic process that employs a mask set. The admitted prior art discloses in page 5, lines 13-15 and Fig. 1a, that the conductive layers are typically formed into individual traces by a lithographic patterning process that employs masks. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include lithographic process that employs a mask set in Noh's system, as suggested by the admitted prior art, to form the conductive layers, since such process is well known in the art.

#### ***Response to Arguments***

7. Applicant's arguments with respect to claims 12-31 and 33-50 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

8. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on November 06, 2003 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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